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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,311	09/30/2003	Patrick S. Clare	03RE145/YOD REEL:0051	5339

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EXAMINER

JOYCE, WILLIAM C

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 11/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/675,311	Applicant(s) CLARE ET AL.	
	Examiner William C. Joyce	Art Unit 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the amendment filed August 18, 2006 for the above identified patent application.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-11, and 19-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. In claims 1 and 19, the limitation "the gearbox output shaft being oriented axially in-line and transverse to the gearbox input shaft" is unclear as to how the shafts can be "axially in-line" and "transverse." Referring to Figure 3, it appears the output shaft (50) is disposed transverse to the input shaft (42), wherein the output shaft and the input shaft are located in a single plane. Appropriate correction is required.

- b. In claim 29, the limitation "the gearbox is adapted to secure a motor to the gearbox axially in-line and at a right angle to the gearbox output" is unclear as to how the motor can be both "in-line" and "at a right angle" to the output. Referring to Figure 3, it appears the output shaft (50) is disposed at a right angle to the motor shaft (38), wherein the output shaft and the motor shaft are located in a single plane. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 7, 10-12, 15-19, and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Dacunto (USP 4,171,651).

Dacunto illustrates a gearbox comprising: a gearbox input shaft (61) supporting a bevel gear (62), a gearbox output shaft (66), the gearbox output shaft being oriented transverse to the gearbox input shaft; and a motor mounting portion enabling a motor (12) having a motor output shaft (68) to be secured to the gearbox, the motor output shaft being aligned with the gearbox input shaft when the motor is secured to the motor mounting portion. As understood from the figures, the output shaft is constructed such that it could support the gearbox.

5. Claims 12-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Minegishi et al. (US Patent 6,485,394).

In Figure 6 Minegishi et al. illustrates a gearbox comprising: a motor having a motor output shaft; and a gearbox, comprising: a gearbox input shaft coupled to the motor output shaft, and a first bevel gear (90A) mounted on the gearbox input shaft, wherein the first bevel gear is oriented axially in-line with the motor output shaft; and a

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second bevel gear (92) operable to be rotated by the first bevel gear, wherein the first bevel gear has a plurality of gear reducing stages downstream from a right angle input stage.

With respect to claim 13, the input gear of Figure 6 is a hypoid pinion, wherein a hypoid pinion is a spiral bevel gear.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-22, 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minegishi et al. (US Patent 6,485,394).

Figure 8 of Minegishi et al. illustrates a gearbox comprising: a gearbox input shaft supporting a bevel gear (122A), a gearbox output shaft (126), the gearbox output shaft being oriented transverse to the gearbox input shaft; and a motor mounting portion (62) enabling a motor (2) having a motor output shaft to be secured to the gearbox, the motor output shaft being aligned with the gearbox input shaft when the motor is secured to the motor mounting portion, a planetary arrangement (36) being disposed between the motor shaft and the gearbox input shaft for drivingly coupling the shafts together for

rotation. As understood from the figures, the output shaft is constructed such that it could support the gearbox.

Figure 8 of Minegishi et al. does not disclose the output shaft having a plurality of gear reducing stages downstream therefrom, however it was known in the art to provide a bevel gear transmission with a plurality of gear reducing stages downstream therefrom. For example, the prior art illustrated in Figure 6 of Minegishi et al. illustrates a bevel gear transmission having the claimed gear reducing stages. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the gear arrangement illustrated in Figure 8 of Minegishi et al. with a plurality of gear reducing stages downstream from the bevel gears, as taught in the embodiment illustrated in Figure 6 of Minegishi et al., motivation being to further reduce the speed of the transmission.

With respect to claims 6, 13, and 20, Minegishi et al. does not disclose the bevel gear 122A as a spiral bevel gear, however it was notoriously known in the art to form a bevel gear as a spiral bevel gear for reducing noise of the meshing gears. Further, the embodiment of Figure 6 is a hypoid pinion, wherein a hypoid pinion is a spiral bevel gear. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the bevel gear in Figure 8 as a spiral bevel gear, as taught by the embodiment in Figure 6 of Minegishi et al., motivation being to provide a smooth operating gear transmission having reduced noise.

With respect to claims 26-28, Minegishi et al. illustrates in Figure 8 a first housing portion disposed about the input and output gears, and a second housing positioned at a bottom portion of the first housing portion.

8. Claims 6, 13, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dacunto (USP 4,171,651).

Dacunto does not teach the bevel gears as spiral bevel gears, however it was well known in the art to form a bevel gear with spiral teeth. Official Notice is taken with respect to forming the bevel gear of Dacunto with spiral teeth since it was well known in the art for producing a smooth operating gear device having an increased operating capacity.

9. Claims 10, 23, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over at least one of Dacunto (USP 4,171,651) or Minegishi et al. (US Patent 6,485,394) as applied to claims 1, and 22 above, and further in view of Antony et al. (US Patent 5,857,389).

The transverse gearbox disclosed by either Dacunto or Minegishi et al. does not teach the claimed supporting means for supporting the gearbox. The prior art to Antony et al. discloses (column 1, lines 34+) "torque arms are widely used with drive units having hollow bore output shafts where the solid shaft of the driven machinery is inserted into the bore of the driving unit" and "this type of drive arrangement (also called "shaft mounted gearboxes or gearmotors) secures inherently the alignment of the driven

and drive shafts.” It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the supporting means of either Dacunto or Minegishi et al. with a solid driven shaft extending through a hollow output shaft in combination with a torque arm supporting the gearbox, as taught by Antony, motivation being to secure the alignment of the device.

Response to Arguments

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note the bevel gear transmission of USP 5,887,494 and DE 32 04 968.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Joyce whose telephone number is (571) 272-7107. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


William C. Joyce 10/30/06